

Comments regarding
Dietary Guidelines for Americans

Submitted to the
Dietary Guidelines Advisory Committee,
U.S. Department of Health and Human Services, and
U.S. Department of Agriculture

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Submitted to:
Crystal Tyler
Graduate School, USDA
600 Maryland Avenue, SW
Suite 330
Washington, D.C. 20024

The Center for Science in the Public Interest (CSPI) respectfully submits to the Dietary Guidelines Advisory Committee (DGAC), the U.S. Department of Health and Human Services (DHHS), and the U.S. Department of Agriculture (USDA) recommendations regarding the bulletin *Nutrition and Health: Dietary Guidelines for Americans*.

CSPI is a non-profit consumer education and advocacy organization that since 1971 has been working to improve the public's health through better nutrition and safer food. CSPI's work is supported primarily by its 800,000 members and subscribers to its *Nutrition Action Healthletter*, the nation's largest circulation health newsletter. CSPI does not accept any government or corporate funding.

CSPI's work was instrumental in passage of the Nutrition Labeling and Education Act of 1990 and the Alcoholic Beverage Labeling Act of 1988. Other initiatives include studies of the nutritional quality of restaurant foods, advocating trans fat labeling on packaged foods, and campaigns to promote low-fat milk consumption, improve school foods, stop misleading food and alcohol advertising, enforce food safety laws, and improve alcoholic-beverage labeling.

Enclosed are eight sets of comments regarding the following guidelines:

- Nutrient Adequacy
- Sodium
- Fibers
- Whole Grains
- Added Sugars
- Energy Balance
- Fatty Acids
- Restaurant Foods
- Food Dyes and Behavior
- Ethanol

Our comments are summarized in the oral testimony which will be presented to the committee on January 29, 2009, which is enclosed.

For more information or questions regarding these comments please contact Alexandra Lewin, Ph.D. at 202.777.8351 or alewin@cspinet.org.

Comments by the Center for Science in the Public Interest on Nutrient Adequacy

The Center for Science in the Public Interest supports the current guideline urging the public to “consume a variety of nutrient-dense foods and beverages within and among the basic food groups” and to “meet recommended intakes within energy needs by adopting a balanced eating pattern, such as the USDA Food Guide or the DASH Eating Plan.”

I. Cite OmniHeart instead of DASH diet.

The 2005 Guidelines uses both USDA’s Food Guide and the DASH study to advise readers about the number of servings to eat from each food group. However, in the OmniHeart study, researchers pitted the initial DASH diet against similar diets that were higher in either protein or unsaturated fat.¹ Compared to the initial (higher-carb) diet, the higher-protein and higher-unsaturated fat diets led to lower triglyceride levels, and the higher-unsaturated fat diet also maintained HDL (“good”) cholesterol more than the other two diets (See Attachment: “Good Carbs, Good Protein, Good Fats: Which is Better for your Heart?” NAH, May 2007).

Although it might be too complicated to inform readers about all 3 diets, it would certainly be reasonable to let readers know that a diet that is higher in protein or unsaturated fats would be equally, if not more, healthful than the higher-carb diet. Based on changes in blood pressure and lipids, the higher-carb diet would reduce the 10-year risk of heart disease by 20%, while the higher-protein and higher-unsaturated-fat diets would reduce the risk by 30%.

II. Vegetarian diets

The 2005 edition of Dietary Guidelines for Americans includes (page 9) but a single sentence alluding to the health merits of a vegetarian diet: “Vegetarians of all types can achieve recommended nutrient intakes through careful selection of foods.” Yet, literature—including clinical and epidemiologic studies—demonstrates that vegetarians can not only “achieve recommended nutrient intakes” but enjoy good health (notwithstanding that many vegetarians consume dairy products rich in saturated fat) than the average person, the DGAC should encourage healthy vegan, lacto-ovo, and other forms of vegetarian diets. Because people needn’t eat purely vegetarian diets (except for ethical reasons), the DGA throughout should emphasize the benefits of a “more plant-based diet.” We have attached an excerpt from CSPI’s book, *Six Arguments for a Greener Diet*, which summarizes the research and includes literature citations.²

III. Broaden the advice to get sufficient vitamin D.

The 2005 Dietary Guidelines urges only “special groups” (i.e., the elderly, dark-skinned people, and those “exposed to insufficient ultraviolet radiation,” such as people who are

housebound) to get “higher intakes of vitamin D.” In fact, anyone who lives in the northern half of the United States gets too little UV light to make sufficient vitamin D in the winter. Furthermore, research now suggests that adequate intakes of vitamin D may reduce the risk falls, fractures, diabetes, and some cancers (Attachment: “Are You Deficient?” NAH, December 2006).

Moreover, the Guidelines suggests that milk, fortified orange juice, and supplements are the only sources of vitamin D. Vitamin D is now added to some brands of yogurt, bread, cereal, and other foods, as well as a number of calcium supplements.

(Note: the text should give vitamin D levels for only 1 cup of milk, not 3 cups. It is unrealistic to assume that the average person drinks 3 cups of milk each day, and it is confusing for readers to see vitamin D levels of 3 cups of milk but only 1 cup of orange juice.)

IV. The Dietary Guidelines should, in addition, stress that the following are not acceptable substitutes for nutrient-dense, unprocessed or lightly processed foods:

Fortified “junk foods.”

The Food and Drug Administration has long prohibited companies from fortifying foods of low nutritional value with vitamins or materials in order to market them as healthy. This is the so-called “jelly bean rule.” Companies may not make an expressed or implied health claim for any food with added nutrients which does not have in a serving at least 10 percent of the Reference Daily Intake or the Daily Reference Value for vitamin A, vitamin C, iron, calcium, protein, or fiber before a nutrient is added.³

Food and beverage manufacturers are, unfortunately, ignoring this policy. In an effort to cash in on the “functional food” trend, companies are increasingly adding vitamins, minerals, and herbs to soft drinks, water, energy drinks, candy, and other products which would have little or no nutritional value without the fortification.

The Dietary Guidelines should emphasize that unprocessed or lightly processed foods from the basic food groups contain hundreds of potentially beneficial compounds that cannot be matched by fortified waters, drinks, or foods which may have only one or a few isolated nutrients added to them.

Multivitamin and mineral supplements.

The Dietary Guidelines should stress that multivitamins, whether in the form of pills or food products, should be used, if at all, to supplement -- and not to replace -- food. That’s because dietary supplements generally contain only those few nutrients proven to be necessary to prevent deficiency diseases, while foods contain a wide variety of potentially beneficial compounds. (And many multivitamin products don’t even contain all of the essential nutrients.)

Moreover, ingesting too much of a particular nutrient is much more likely from dietary supplements than it is from unfortified foods. For example, there is concern that large amounts of folic acid, obtainable only from fortified foods and dietary supplements, may increase the risk of breast cancer in women.⁴ Large amounts of beta-carotene cause lung cancer in smokers⁵ and large amounts of vitamin E, beta-carotene, or vitamin E may increase mortality.⁶

Herbal supplements.

Herbal supplements contain little, if any, nutrients and so have no important place in a healthy diet. Consumers may choose to use them because they think these products may help to preserve their health or help prevent or treat a disorder, but few of the claims made for these products have been substantiated by good clinical trials and, indeed, most such trials have found the supplements *not* to be effective.

Antioxidants.

Plant foods naturally contain antioxidants, and that may well be one of the reasons why plant-based diets are associated with health benefits.⁷ But antioxidants such as beta-carotene, vitamin C, and vitamin E, taken either as pills or added as ingredients to foods, have usually not been linked to health benefits, either in healthy people or in those with a health condition.⁸ Worse, as noted above, large amounts of beta-carotene and vitamin E have consistently produced a slightly higher death rate in those who take them.⁹

The Dietary Guidelines should emphasize that foods to which antioxidants are added are not satisfactory replacements for foods that naturally contain antioxidants and that large amounts of antioxidants may be harmful, not beneficial.

Fatty acids.

The two major omega-3 fatty acids found in fish and seafood, docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), have been shown to reduce the risk of death from coronary heart disease.¹⁰ The Dietary Guidelines recognize their value by recommending that “most fats” come “from sources of polyunsaturated and monounsaturated fatty acids, such as fish, nuts, and vegetable oils.”

However, the other major omega-3 fatty acid in the diet, alpha linolenic acid (ALA), which is found in plant foods, has not consistently been linked to the same heart-healthy benefits as DHA and EPA.¹¹

Unfortunately, some food manufacturers exploit this conflation of beneficial and innocuous fatty acids by adding the cheaper and more convenient ALA to their foods, and then label and advertise that their products “contain omega-3” without disclosing that this is not the omega-3 that has been established as especially good for their hearts.

The Dietary Guidelines should remind consumers that not all omega-3 fats are the same and that ALA is not a satisfactory substitute for DHA and EPA. The DGAC might well encourage the Department of Health and Human Services to stop the deceptive label claims.

Comments by the Center for Science in the Public Interest on Sodium

Salt – sodium chloride – is perhaps the deadliest ingredient in our food supply.

The health community is united in the conclusion that Americans are consuming far too much salt and other sources of sodium. Consuming less sodium is one of the single most important ways to prevent cardiovascular disease. The salt guideline, while currently quite good, should do even more to alert Americans to: the risks of consuming excess amounts of sodium, how much sodium is included in processed and restaurant foods, and the daily limit of sodium.

Sixty-five million Americans have high blood pressure,¹² another 45 million people have “prehypertension,”¹³ and about 90 percent of Americans will eventually develop hypertension.¹⁴ African Americans’ rate of hypertension is 60 percent greater, and rate of stroke deaths is 40 percent greater, than that of the general population.¹⁵

In contrast to the U.S. Government, the United Kingdom’s Food Standards Agency (FSA) has made salt reduction a top priority and is both making consumers more aware of the health threat posed by excessive salt consumption and exerting strong pressure on the food and restaurant industries to gradually lower sodium levels to specified targets. The DGAC should provide an authoritative statement that would encourage our government, too, to make salt reduction a top health priority.

Despite experts’ admonitions over the years, per capita sodium consumption has actually increased (according to NHANES surveys) from 2,800 mg in 1976-80 to 3,400 mg in 2003-04. According to the 2003-04 NHANES survey, 70 percent of adult males and 50 percent of adult females exceed the 2,300 mg Dietary Guidelines recommended level—even though those estimates omit salt added at the table or in cooking, and the NHANES respondents are thought to underestimate their actual consumption. Thus, actual daily consumption is probably closer to 4,000 mg,¹⁶ with high percentages of both males and females exceeding the recommended levels.

The extraordinary importance of lowering sodium consumption was highlighted in a 2004 commentary in the American Journal of Public Health coauthored by Claude Lenfant, then-Director of NHLBI, and two colleagues. The article estimated that reducing the sodium content of packaged and restaurant foods by 50 percent would prevent 150,000 deaths due cardiovascular disease per year.¹⁷ Reducing sodium consumption also would save tens of billions of dollars in health care costs. A preliminary RAND Corp. study estimates that reducing average sodium from 3,400 mg to 2,300 mg per day would reduce direct medical costs by \$18 billion per year and quality of life by \$32 billion per year.¹⁸ A further reduction to 1,500 mg per day would reduce medical costs by \$28 billion per year.

In the early 1980s, the FDA called for vigorous voluntary action on the part of industry to reduce sodium levels. We evaluated the changes in almost 100 foods that were produced in 1983 and still produced in 2004.¹⁹ The average change in sodium content of those foods was only a 5 percent decrease, a decline of 0.3 percent per year—a far lower rate than what would be needed to achieve the 50-percent decrease over 10 years that the American Medical Association, American Heart Association, American Public Health Association, and many other experts have recommended.²⁰

In 2005, CSPI evaluated the sodium content of 528 randomly chosen manufactured and restaurant foods. Notwithstanding the 2005 Dietary Guidelines' strong admonition to consume less salt, when we surveyed the same foods in late 2008, we found that the average sodium content changed (increased) by less than one percent. Clearly, the food industry needs to be sent a stronger signal that major sodium reductions are essential.

I. The guidelines should explicitly state the direct link of sodium consumption to heart attacks and death

Not only is sodium in the American diet a major cause of high blood pressure, but there is now hard evidence that curbing sodium also reduces the risk of cardiovascular disease (heart attack, stroke, coronary bypass, angioplasty, or cardiovascular death). According to a recent study of more than 3,000 overweight people aged 30 to 54 with pre-hypertension, those who were randomly assigned to reduce their sodium intake (the average reduction was roughly 800 to 1,000 milligrams a day) for 1½ to 3 years were 30 percent less likely to be diagnosed with cardiovascular disease over the next 10 to 15 years.²¹ Also, they reduced their risk of dying from cardiovascular disease by 20 percent, although that data was not statistically significant. Furthermore, when researchers gave salt tablets (4,600 mg of sodium) to 16 young healthy normotensives who were consuming a low-sodium diet (600 mg a day) for five days, vascular endothelial function, left ventricular mechanical relaxation, and electric repolarization were impaired.²² Also, in a study of elderly Taiwanese military veterans living in a retirement home, researchers replaced regular salt with potassium-enriched salt, thereby boosting the men's potassium intake while lowering their sodium intake.²³ After almost three years of follow-up, those men who reduced their sodium intake enjoyed a 41-percent reduction in cardiovascular disease deaths. The guidelines should explicitly state that there is a direct link not only between sodium consumption and blood pressure, but also between sodium and cardiovascular disease.

II. The guidelines should lower the recommendation of daily consumption of sodium for most adults to 1,500 mg.

The 2005 Dietary Guidelines recommends that people limit consumption of sodium to 2,300 mg per day unless they are in certain population groups. Individuals with hypertension, blacks, and middle-aged and older adults are advised to limit their sodium to 1,500 mg per day. Because about two-thirds of the population is in one or another of those “specific population groups,”²⁴ the recommendation of daily consumption of

sodium by adults should be lowered to 1,500 mg. Lower limits should be indicated for certain other population groups, such as 1,300 mg for people 51 to 70 years old and 1,200 mg for those over 70. Those numbers reflect the Institute of Medicine's (IOM) 2004 Dietary Reference Intakes for daily "Adequate Intake" for sodium. The IOM offers two sets of recommendations, an adequate intake and an upper level intake. But according to the IOM, "...the UL is not a recommended intake and, as with other ULs, there is no benefit to consuming levels above the AI."²⁵

III. The Guidelines should include a specific sodium recommendation for children.

The 2005 Sodium and Potassium guideline recommends intakes of potassium, but not sodium, for children. (Currently, recommendations for sodium intake by children are only included in the 2005 DGAC report – not the Dietary Guidelines itself - and are higher than those recommended by the IOM.) The IOM's recommended adequate intake of sodium is 1,000 mg/day for children aged 1 to 3, 1,200 mg/day for children aged 4 to 8, and 1,500 mg/day for children aged 9 to 13.²⁶ Children, however, children are consuming an average of more than twice the recommended amounts of sodium.²⁷

A high-salt diet in childhood is associated with higher blood pressure in children that likely will lead to increased risks of hypertension, strokes and heart disease later in life.²⁸ Reducing the sodium content in kids' foods would help train their taste buds to enjoy lower-salt foods. In addition, some researchers have attributed the rise in the rate of kidney stones seen in children to the excess amounts of salt in children's diets.

CSPI recently conducted a study of the nutritional quality of 1,474 kids' meals at 13 top chain restaurants and found that not only are those meals loaded with calories, but that every single meal was too high in sodium (based on 1/3 of the IOM's recommended adequate intake for children).²⁹ In fact, many of the meals included over a whole day's worth of sodium. For example, the KFC kids' meal that includes crispy chicken strips, green beans, baked beans, Tropicana fruit punch, and Teddy Grahams supplies 2,215 mg of sodium. At Denny's, the Galactic Grilled Cheese and Moon Crater Mashed Potatoes with Gravy combo meal has 1,385 mg of sodium. Chili's offers a grilled chicken sandwich, rice, and 1 % chocolate milk meal that contains 1,610 mg of sodium. At McDonald's, a child can order a meal that includes a double cheeseburger, small French fries, and a 12 oz. fountain drink meal - and 1,340 mg of sodium.

The guidelines should make specific recommendations for children's intake of sodium and also highlight the need to pay careful attention to the amounts of sodium consumed by children outside of the home.

IV. The sodium guideline should emphasize the extraordinarily high levels of sodium in many restaurants foods.

Although the 2005 guideline does state that "...food served by food establishments may be high in sodium," it does not emphasize sufficiently the extraordinarily high levels of

sodium in many restaurant foods. The sodium content of foods listed in Table 15 of the Guidelines does not include a single restaurant meal. The Dietary Guidelines should provide more details regarding high-sodium foods in restaurants, especially given that one-third of all calories are consumed away from home. According to CSPI's lab analyses:³⁰

- Typical deli sandwiches have 1,000 mg or more of sodium. Some, like corned beef with mustard, ham with mustard or mayo, or a turkey club, contain closer to 2,000 mg of sodium. A Reuben or "overstuffed corn beef" sandwich can contain closer to 3,000 mg of sodium.
- Nearly all main courses at popular Italian restaurants had at least 1,000 to 2,000 mg of sodium. Most Chinese dishes and Mexican platters had at least 2,000 to 3,000 mg of sodium.
- Many fast foods include high amounts of sodium. Breakfast sandwiches include 1,000 mg of sodium or more. Also, many grilled chicken sandwiches and large cheeseburgers have well over 1,000 mg of sodium.
- Many appetizers at popular dinner house chains are loaded with sodium. For example, an order of buffalo wings or fried mozzarella sticks has approximately 2,000 mg of sodium.

If the Dietary Guidelines for Americans is going to provide useful information to consumers, it is essential that it give practical advice for eating in restaurants and other food service establishments where Americans get about one-third of their calories.

V. Recommended research.

We urge the committee to recommend that new research be sponsored to better estimate sodium consumption and to monitor changes in consumption.

- It is important to know how much sodium is consumed from packaged foods, restaurant foods, salt added during cooking, and salt added at the table. A widely cited report was conducted decades ago involving only 62 adults who were not nationally representative.³¹ The committee should recommend that the FDA, CDC, or NHLBI conduct a new study to more accurately identify the sources of sodium in the American diet.
- Health officials (and the DGAC) do not have access to reliable data on sodium consumption. Purported per capita sodium consumption is deduced from dietary recalls conducted by NHANES. Unfortunately, the NHANES methodology includes significant flaws: food intake is typically underestimated, brand-to-brand variations (in both restaurant and packaged foods) are large, and salt added to foods by consumers is not included. Hence, the widely used NHANES figures probably underestimate actual consumption by 15 percent or more.³² Urinary-

excretion studies are the only accurate means of determining total sodium consumption, but, unfortunately, only small, non-representative studies are available. The DGAC should recommend that 24-hour urinary-excretion measurements be added to the NHANES study protocols.

Comments by the Center for Science in the Public Interest on Fibers

I. Advise consumers to look for the intact fiber in grains, not isolated fibers added to foods.

The 2005 Guidelines states that “the recommended dietary fiber intake is 14 grams per 1,000 calories consumed,” and notes that “consuming at least half the recommended grain servings as whole grains is important, for all ages, at each calorie level, to meet the fiber recommendation.” In a separate advice for older adults, the Guidelines notes that “dietary fiber is important for laxation. Since constipation may affect up to 20 percent of people over 65 years of age, older adults should choose to consume foods rich in dietary fiber.”

The 2010 Dietary Guidelines needs to distinguish more clearly between whole grains, beans, vegetables, and fruits with intact fiber versus foods with added isolated fibers. In recent years, companies have started adding isolated fibers—mostly purified powders—to foods that have always been fiber-free (ice creams, yogurts, juices, drinks) and to foods that always contained naturally occurring fiber (cereals, breads, pasta). See Attachment: “Fiber Free-for-All: Not All Fibers are Created Equal,” NAH July/August, 2008.

However, there is little or no evidence that isolated fibers, including inulin, polydextrose, resistant maltodextrin, oat fiber, and soy fiber—have the same benefits as intact fiber. None have been linked to a lower risk of heart disease or diabetes, and none have consistently lowered blood cholesterol or blood sugar. It is not clear whether—and to what extent—polydextrose, oat fiber, and soy fiber may promote laxation. However, inulin and maltodextrin appear to have little or no effect, and both polydextrose and inulin appear to cause gas, bloating, or other gastrointestinal discomfort.³³ Overall, few well-designed studies have documented the effects of most isolated fibers on any key outcome.

Unfortunately, Nutrition Facts labels do not distinguish between intact and added isolated fibers. Careful consumers can study the ingredient label to see if a food contains any added fiber. However, even those wary consumers cannot tell how much of a food’s fiber is intact and how much is isolated.

(Note: The Institute of Medicine used the term “functional fiber” instead of “isolated fiber” and “dietary fiber” instead of “intact fiber.” ³⁴ However, the report stated that a fiber would have to have beneficial physiological effects in humans to qualify as “functional.” Despite the absence of evidence for those benefits, isolated fibers are now listed as “dietary fiber” on Nutrition Facts labels.)

Industry analysts predict that a new fiber craze is in progress.³⁵ (See Attachment, “Fiber

Being Pitched As Tasty, Sexy Even.”) Given the growing prevalence of foods to which isolated fiber is added, it is critical that the Dietary Guidelines warn consumers that the isolated fibers added to foods may have few health benefits, and that they should rely on whole grains, beans, vegetables, and other sources of intact fiber instead.

Comments by the Center for Science in the Public Interest on Whole Grains

I. Delete the advice to consume at least 3 ounce-equivalents of whole grains per day.

The current Guidelines urges consumers to “consume 3 or more ounce-equivalents of whole-grain products per day, with the rest of the recommended grains coming from enriched or whole-grain products. In general, at least half the grains should come from whole grains.” This “key recommendation,” which also appears in both the “Food Groups to Encourage” and the “Carbohydrates” chapters, has led to enormous confusion and deception in the marketplace.

The food industry has translated the 3-ounce advice into an 8-gram minimum.

The food industry has distorted the recommendation to “consume 3 ounces or more of whole grain products.” The industry has argued that the Guidelines recommend three 16-gram servings, or 48 grams, of whole grains per day as a daily target, much like the Daily Values for vitamins and minerals. Using 48 grams as a daily target, the industry has argued that any food with at least 8 grams of whole grains is a “good source” and any food with at least 16 grams of whole grain is an “excellent source.” In 2005, the FDA issued a draft guidance that denied an industry petition to make “good source” and “excellent source” claims for whole grains. However, some companies have continued to use the 8-gram criterion as a minimum for “made with whole grain” and similar claims.

A food with 8 grams of whole grain could be 85% or more *refined* grain.

Any claims that use 8 grams (or any other minimum absolute quantity) of whole grains as a criterion are deceptive because they ignore the second part of the Guidelines’ advice, which is to make at least half of one’s grains whole. For example, if a breakfast cereal with a 55-gram serving size contains 8 grams of whole grains, it could be only 15 percent whole grain and as much as 85 percent refined grain. That cereal could be labeled “made with whole grains,” and possibly “good source of whole grains,” yet it would contradict the advice to “make half your grains whole.” (For additional examples, see Attachment: “Whole Grains: The Inside Story,” NAH, May 2006).

The 3-ounce advice could lead consumers to get far more refined than whole grains.

Consumers who diligently strive to consume 3 servings of foods that are “made with whole grains” may end up with only 24 grams of whole grains along with a far greater quantity of refined grains. (For example, if a consumer ate three 55-gram servings of a cereal that contains 8 grams of whole grain, 35 grams of refined grain, 12 grams of sugar per serving, he or she would consume 105 grams of refined grains and 36 grams of sugar, along with the 24 grams of whole grains.) What’s more, labels do not disclose levels of

refined grains, so consumers who eat those 3 foods would not know that they have failed to follow experts' advice on whole grains.

Ideally, the FDA would remedy this confusion by requiring:

- all grain foods to bear a “__% whole grain” disclosure above the Nutrition Facts panel. (This disclosure would appear in the same location as the “__% juice” disclosure on juice drinks, ades, and similar beverages.)
- all foods that make a whole grain claim to bear a “__% whole grain” disclosure next to the claim.

The “3 ounce-equivalents” advice is confusing.

The Guidelines recommends consuming “at least 3 or more ounce-equivalents of whole grains.” Most people have no idea what an “ounce-equivalent” is. Consumers can’t assume that it’s equal to one serving of breakfast cereal because a single serving typically weighs either one ounce or two ounces. Nor can consumers assume that a slice of bread is an “ounce-equivalent,” since a single slice of many breads weighs roughly 1½ ounces and many bagels weigh up to 4 ounces. More importantly, few consumers go to the trouble of checking serving sizes to see how many ounce-equivalents they contain (that is, if they had any idea what an ounce-equivalent is). Finally, people who are intimidated by jargon like “ounce-equivalents” will ignore the advice altogether.

II. Urge consumers to eat foods that are “100% whole grain,” or at least “50% whole grain.”

The Guidelines could stick with a simple, clear message to “Make at least half of your grains whole grains.” In addition, the Guidelines could offer the following advice to consumers:

Look for foods that that are “100% whole grain,” or at least “50% whole grain.”

The simplest advice for people who seek whole grains is to “look for a 100% whole grain claim on the label.” Any food that’s at least 50% whole grain can also help people follow the Guidelines (though higher percentages of whole grain would be preferable). Only a few foods, such as Barilla pasta, carry an “X% whole grain” claim on the label (see Attachment: “The Whole Truth,” NAH, June, 2008). However, percentage claims could become more widespread if the Guidelines were to advise people to seek them.

Ignore vague claims such as “made with whole grains.”

Many consumers do not understand that “made with whole grains” means “*only partially* made with whole grains” or (in many cases) “made with *very little* whole grain.” To many people, “made with whole grains” means “made *only* with whole grains.” If the

Guidelines was to urge people to ignore deceptive “made with whole grains” claims, the food industry might use them less often.

Ignore claims that disclose the number of grams of whole grains.

Many labels carry claims such as “8 grams of whole grains.” These claims are often misleading because the food may contain a far greater—but undisclosed—quantity of refined grains. Perhaps some dietitians and sophisticated consumers may know that they have to check the weight of a serving and calculate what percent is whole grain. However, that calculation is usually imprecise because the label doesn’t disclose the levels of moisture or other constituents that contribute to a food’s weight. A frozen pizza that contains, say, 10 grams of whole grain may weigh 130 grams, but much of the weight comes from tomato sauce, cheese, and moisture. Therefore, it is easier for consumers to ignore claims that disclose the number of grams of whole grains and instead rely on claims that disclose the “__% whole grain.” In any case, consumers shouldn’t be forced to make such calculations.

Don’t confuse whole grains with high-fiber foods.

Many people assume that whole grains and fiber are equivalent, and many foods are now carrying fiber claims. However, those foods often reach a high fiber level because they contain added isolated fibers, such as inulin, polydextrose, resistant maltodextrin, and oat fiber (see NAH, July/Aug, 2008). Studies have not demonstrated that those fibers lower the risk of heart disease, constipation, or other health problems. The Guidelines could clarify some of this confusion by reminding consumers that a high-fiber food may not be whole grain.

Delete or clarify the reference to health claims.

The Guidelines now advises consumers that “the Food and Drug Administration requires foods that bear the whole-grain health claim to (1) contain 51 percent or more whole-grain ingredients by weight per reference amount and (2) be low in fat.” The Guidelines should either delete the reference to “the whole-grain health claim” or replace it with a reference to the precise claim:

Diets rich in whole grain foods and low in total fat, saturated fat, and cholesterol, may help reduce the risk of heart disease and certain cancers.

Without that clarification, few consumers know which claims are “health claims.” Some may assume that claims like “made with whole grains” or “heart healthy” are also health claims.

Comments by the Center for Science in the Public Interest on Added Sugars

I. Urge consumers to limit added sugars to 6% to 10% of calories.

We urge the Committee to review carefully the evidence on appropriate dietary levels of added sugars (especially sucrose, which contains fructose), high-fructose corn syrup (HFCS) (which contains fructose and is treated by the body much like sucrose), and fructose). Furthermore, we urge the Committee to make a more explicit recommendation concerning the appropriate amount to consume than was made in the 2005 edition of the Dietary Guidelines for Americans. That edition's recommendations were provided in an appendix instead of appearing in the main body of text.

Numerous health authorities have urged consumers to limit added or ("free" or "extrinsic") sugars to 6% to 10% of calories.

The issue of how much added sugars are appropriate in a diet has been widely debated by nutrition and health experts in the United States and around the world. They have come to a close consensus.

- The U.S. Department of Agriculture's pamphlet entitled "The Food Guide Pyramid"³⁶ has long recommended that people consuming 1,600 calories per day should not consume more than 6 teaspoons of added sugars, and people consuming 2,200 calories per day should not consume more than 12 teaspoons of added sugars. Interpolating those numbers indicates a limit of 10 teaspoons (40 grams) per day of added sugars in a 2,000-calorie diet. That amounts to 160 calories or 8% of energy, with slightly lower or slightly higher percentages for diets of lower or higher caloric content.
- In 2003, the World Health Organization recommended a limit of less than 10% of energy in the form of "free" sugars (or "extrinsic" sugars, which includes the sugars in fruit juice).³⁷
- The 2005 Dietary Guidelines for Americans recommends limits for added sugars when the fat intake of a healthy diet (all the recommended servings of the lowest-fat versions of foods from the different food groups) is capped at 27% to 30% of calories.³⁸ For a 2,000-calorie diet, the Guidelines recommends a limit of 32 grams, or 6.4% of calories. Note that that approach to identifying a sugar limit does not rely on identifying a harm associated with sugar, but is based on how many discretionary calories fit into a healthy diet without exceeding calorie recommendations and then assigning some to fats and some to added sugars (consuming some of the calories in the form of alcohol would of necessity decrease the amount of fat or added sugars that would be permitted).

The 32-gram limit recommended in the Dietary Guidelines suggests that the public be advised in the strongest terms to limit soft drink intake. Non-diet soft drinks typically contain 40 grams of refined sugars (typically high-fructose corn syrup) in a 12-ounce can and 67 grams in a 20-ounce bottle.

Recommending a limit of 6% to 10% of calories from added sugars would be consistent with previous recommendations by USDA, WHO, the Dietary Guidelines, and others.

The IOM did not recommend diets with up to 25% of calories from added sugars.

Food industry representatives often cite an Institute of Medicine report to establish that diets obtaining up to 25% of calories from added sugars are safe and appropriate. In 2002, the Institute of Medicine (IOM) “suggested” a maximal intake of 25% of calories as added sugars because larger amounts clearly reduce intake of essential nutrients. However, the IOM did not “recommend” a daily intake for added sugars based on that or other effects (effects on blood lipids, dental caries, etc.) of added sugars. Nor did the IOM consider the food environment from which sugars are obtained. (There is evidence that calories consumed in the form of liquids, such as soft drinks, are more conducive to obesity than calories obtained from solid foods). In a follow-up letter³⁹ to the Department of Health and Human Services, the president of the IOM, Harvey Fineberg, explained:

This language is not meant to convey a desirable or even acceptable standard intake. The report states that persons whose intake of added sugars is 25% or more of total calories are more likely to have poorer intakes of important essential nutrients. It does not address the issue that added sugar intakes at 25% or even well below it, may well have significant implications for caloric balance and weight control. Interpretations suggesting that a sugar intake of 25% of total calories is endorsed by the Institute's report are incorrect.

It is our intent to clarify the language in the report to address this point before it is published in final text. However, I wish to clarify the report's findings immediately so that the mischaracterization of the findings is not misleading to the public or to policy-makers.

Furthermore, even if the IOM had recommended a limit based just on nutrient dilution from sugar-containing foods, it would certainly be appropriate to include a safety factor to protect people whose diets were significantly adversely affected by added sugars. Toxicologists customarily use 10-fold safety factors below the highest no-effect level of a substance. While that would be too stringent for this situation, a safety factor of two or three would certainly be appropriate.

II. Clarify the differences and similarities between sucrose, HFCS, glucose, and fructose.

Advise the public that HFCS is no more harmful than sucrose.

We suggest that the DGAC comment on the health impacts of *different* sugars. Some

academics, journalists, and activists have contended that HFCS is more harmful than sucrose. To our knowledge, there are no data supporting the contention that, nutritionally, HFCS affects the body any differently from sucrose.⁴⁰⁴¹⁴²⁴³ Indeed, when sucrose is used to sweeten soft drinks, the acids in the drinks split sucrose into equal amounts of its two component sugars, glucose and fructose. The same two sugars comprise the bulk of HFCS.⁴⁴ A statement by the Committee on the equal harmfulness of HFCS and sucrose could help put an end to this unnecessary debate that only confuses the public's understanding of nutrition.

Advise the public that the fructose in both sucrose and HFCS may promote weight gain and heart disease.

The DGAC should consider and comment on differences in safety between glucose and fructose. Those molecules are metabolized in very different ways and have very different effects on blood sugar, insulin secretion, fatty acids and triglycerides, and levels of hormones, such as leptin and ghrelin, that influence body weight (see references in previous paragraph). The DGAC could conclude that a "total sugars" limit should apply to HFCS and sucrose, but that people make a special effort to cut back further on added fructose⁴⁵ and be somewhat less concerned about added glucose and corn syrup.

III. Urge consumers to severely limit added sugars from beverages, particularly soft drinks.

We urge the DGAC to recommend in strong language that people consume few or no carbonated and non-carbonated soft drinks, including fruit drinks, energy drinks, and sports drinks. Furthermore, because of the major impact of added sugars and soft drinks on health, we urge the DGAC to encourage the FDA to set a Daily Value (DV) for refined sugars, listing refined sugars and the percent DV on Nutrition Facts labels. The DGAC also should recommend that a series of rotating warning labels be required on non-diet soft drinks.⁴⁶

Soft drinks promote obesity.

The consumption of soft drinks has soared in recent decades, in parallel with the obesity epidemic. Researchers have conducted cross-sectional, cohort, and intervention studies of soft drinks and obesity (and other health outcomes) because such drinks are so widely consumed in large quantities and typically provide little nutrition other than calories. Many studies have found an association between the drinks and weight gain. In fact, soft drinks are the *only* beverages or foods that have been directly linked to obesity.

It is only in the last 10 or 15 years that researchers have begun to find statistical and experimental evidence that soft drinks do, in fact, promote obesity.

- An analysis of USDA's 1994–1996 dietary-intake data found that obesity rates have risen in tandem with soft-drink consumption and that heavy consumers of soda pop have higher calorie intakes.⁴⁷

- A study of middle-school children in Santa Barbara County, California found a strong association between obesity and consumption of both regular and diet soft drinks.⁴⁸ (The link between diet soda and obesity may reflect that some overweight children have made dietary changes or that children may consume excess snack foods along with the sodas.)
- National Cancer Institute scientists found that soft drinks provide a larger percentage of calories to overweight youths than to other youths. The difference was most striking among teenage boys: Soft drinks provided 10.3 percent of the calories consumed by overweight boys, but only 7.6 percent of the calories consumed by other boys. Those findings suggest that soft drinks contribute to obesity, even though in this study no difference was observed in the overall caloric intake of the two groups.⁴⁹
- A 19-month observational study on the relationship between soft-drinks and obesity in children involved 548 children whose average age was just under 12 years.⁵⁰ It found that the chances of becoming obese increased significantly with each additional daily serving of sugar-sweetened drink. It also found that at the beginning of the study children's consumption of sugar-sweetened drinks was associated with increased BMI. Though the study was relatively small (37 children became obese over the course of 19 months), it adds to the evidence that soft drinks are contributing to the obesity epidemic.
- A much larger observational study, the Growing Up Today Study, involved more than 12,000 children between 9 and 14 years old and found that greater consumption of soft drinks was associated with small increases in BMI over a two-year period.⁵¹⁵² The authors concluded that “consumption of sugar-added beverages may contribute to weight gain among adolescents, probably due to their contribution to total energy intake.”
- That soft drinks contribute to obesity in adults, not just children, was indicated by a study of tens of thousands of nurses over an eight-year period.⁵³ Women who increased their consumption of soft drinks from less than one a week to one or more per day gained an average of 18 pounds. Women who originally drank one or more soft drinks per day but then cut back to no more than one drink per week gained the least weight (about six pounds). That study also found that women who drank soft drinks daily had almost twice the risk of type 2 diabetes as women who drank little or no soda pop. Fruit drinks also promoted weight gain and diabetes.

In an accompanying editorial, a researcher at the Boston University School of Medicine commented that the study “provides strong, scientifically sound evidence that excess calories from soft drinks are directly contributing to the epidemics of obesity and type 2 diabetes” and that “reducing sugar-sweetened beverage consumption may be the best single opportunity to curb the obesity

epidemic.”⁵⁴

- Consumption of non-diet soft drinks and non-diet fruit “drinks” was positively associated with weight in a cohort of almost 50,000 African American women.⁵⁵ Women who increased their consumption of those beverages over the observation period gained more weight than women who decreased their consumption. Also, a smaller percentage of women who consumed those beverages lost weight.
- Intervention studies can identify cause-and-effect relationships with greater certainty than observational studies like the ones discussed above. One such study involved 644 students between 7 and 11 years old in 29 school classes in England. The researchers studied the effect of strongly encouraging the children in half the classes to drink less “fizzy” drinks.⁵⁶ After one year, the percentage of overweight and obese children in the test group remained the same, but increased by 7.5 percent in the control group.
- Another intervention study, this one in Denmark, compared the health effects of sugar-sweetened and diet soft drinks.⁵⁷ For ten weeks, overweight adults consumed, among other foods, either 600 calories’ worth of beverages and foods sweetened with sugar or similar foods prepared with artificial sweeteners. The group that ate the sugar-sweetened beverages and foods gained an average of 3.5 pounds, while those who consumed the artificially sweetened products lost an average of 2 pounds.
- A 25-week intervention study provided free non-caloric beverages to displace sugar-sweetened beverages in the homes of adolescents.⁵⁸ That simple intervention almost completely eliminated consumption of caloric soft drinks and significantly decreased calorie intake. Among the subjects in the upper baseline-BMI (body-mass index) tertile, BMI change differed significantly between the intervention and control groups.
- A 2006 systematic review of studies on sweetened beverages and weight loss found a strong relationship.⁵⁹ Those researchers stated: “[F]indings from several large cross-sectional investigations, well-powered prospective cohort studies with long follow-up and repeated measures of diet and weight, a school-based intervention targeting soda consumption, and an RCT assessing the effect of reducing sweetened beverage consumption have provided strong evidence for the independent role of the intake of sugar-sweetened beverages, particularly soda, in the promotion of weight gain and obesity in children and adolescents.”
- Another review and meta-analysis found “7 studies that examined the connection between soft drink intake and body weight in an experimental or intervention context. Five reported a positive association.”⁶⁰ The researchers expressed

surprise “that a single source of energy can have such a substantial impact on total energy intake. This finding alone suggests that it would be prudent to recommend population decreases in soft drink consumption.”

- A longitudinal study of more than 3,000 black and white girls monitored beverage consumption between the ages of 9.5 and 18.661 found that “Of all beverages, increasing soda consumption predicted the greatest increase of BMI and the lowest increase in calcium intake.” Fruit drinks, which are essentially non-carbonated sodas, showed similar, but not statistically significant associations with obesity and calcium intake.

In commenting on the Striegel-Moore study, William Dietz, the director of the Division of Nutrition and Physical Activity of the Centers for Disease Control and Prevention, recommended “changing the environment” to promote healthier beverage choices.⁶² As CSPI has recommended earlier, the FDA should (a) designate a DV for added sugars and require that the percentage of that DV be listed on Nutrition Facts labels (changing “sugars” to “added sugars”) and (b) require a series of rotating warning notices on labels of carbonated and non-carbonated non-diet soft drinks.

- A 2007 Joint FAO/WHO committee reviewed studies on sugar-sweetened beverages and weight and concluded: “evidence from short-term blinded randomized controlled trials, medium-term non-blinded randomized trials, and long-term prospective cohort studies indicates that reduction of consumption of sugar-sweetened beverages is beneficial for weight management.”⁶³

The FAO/WHO committee as a whole affirmed, “Thus, there is justification for the recommendation to restrict the consumption of beverages high in free sugars to reduce the risk of excessive weight gain....Thus, the outcomes of the Scientific Update support the population nutrient intake goals on free sugars (that is, <10% of total energy) that were recommended by the 2002 WHO/FAO Expert Consultation.”⁶⁴

The fear that soft drinks are fueling the epidemic of overweight and obesity was echoed by the Institute of Medicine’s Committee on Prevention of Obesity in Children and Youth.⁶⁵ It acknowledged the lack of “definitive proof” that soft drinks cause obesity, but still declared:

Because of concerns about excessive consumption of sweetened beverages in place of more nutrient-rich or lower-calorie alternatives, children should be encouraged to avoid high-calorie, nutrient-poor beverages.

One reason that soft drinks appear to be conducive to obesity is that calories consumed in the form of liquids, rather than solids, are more likely to promote obesity. In one study, subjects added 450 calories a day to their diets from either soft drinks or jelly beans during two four-week periods.⁶⁶ When they ate jelly beans, the subjects compensated for the added calories by consuming roughly 450 fewer calories from other foods.

However, when they drank soft drinks, the subjects failed to compensate, adding 450 calories to their previous diet. Other studies support that finding,⁶⁷ but some research does not.⁶⁸ The differing results may be due to the foods tested, the subjects tested, the length of the tests, or other reasons. (Though few studies have compared the effects of different liquids on weight gain, two small clinical studies did not find any difference in caloric intake at lunches that were either preceded or accompanied by drinking equal numbers of calories in the form of cola, orange juice, or low-fat milk.⁶⁹ However, such clinical studies have not evaluated whether the drinking of particular beverages, because of their customary roles in the diet, conventional serving sizes, or tastes, affects how much of those beverages one drinks and what solid foods one eats.) Meanwhile, prudence would suggest that we pay heed to the possibility that liquid calories are particularly conducive to weight gain.

Heavy soft drink consumption causes health effects other than obesity.

Research also has linked soft drink consumption to **metabolic syndrome**, which is associated with an increased risk of coronary heart disease. An eight-year-long longitudinal study of 154 girls⁷⁰ concluded that “The only significant [dietary] difference” among the several risk groups “was in sweetened beverage intake.” A study of young adults (19 to 38 years old) in Louisiana found a strong association between consumption of sweetened beverages and risk factors for metabolic syndrome.⁷¹ That finding, according to the researchers, was not simply due to the subjects consuming excess calories or being overweight.

Similarly, the Framingham Heart Study has evaluated associations between soft-drink consumption and metabolic syndrome in middle-aged adults.⁷² At the beginning of the study, frequent consumers of soft drinks had a higher incidence of metabolic syndrome, diabetes, dyslipidemias, and other adverse health parameters. After four years, consuming one or more soft drinks per day was associated with statistically significant increases in metabolic syndrome, obesity, greater waistline, and dyslipidemias.

Diabetes has been associated with consumption of non-diet soft drinks and non-diet fruit “drinks” in a cohort of 50,000 African American women.⁷³ Consuming two or more soft drinks per day was associated with a 24 percent chance of developing diabetes compared to women who drank less than one drink per day.

Because over-consumption of sugar and soft drinks increases the risk of diabetes, the American Diabetes Association in 2008 advised the FDA that:

Foods high in added sugars (such as soda and sweets) are nutritionally inferior to foods high in naturally occurring sugar (such as fruit and milk).... ADA suggests establishing a Daily Reference Value for **added** sugars to help guide consumers in choosing the most nutrient dense carbohydrate-containing foods. It would also be deemed acceptable to list only “added sugars” in place of “sugars” on the label. Adding information on “added sugars” will assist consumers in following the guidance of the USDA Food Guide as well as the US Dietary Guidelines.⁷⁴

Additional research indicates that high cola consumption is associated with **lower bone density** in women⁷⁵ and **chronic kidney disease**⁷⁶ and that consumption of any soft drinks is associated with a higher risk of **gout**.^{77,78}

Comments by the Center for Science in the Public Interest on Energy Balance

I. Revise the guidelines to caution the public about key culprits in weight gain.

The United States is in the midst of an obesity epidemic. With two out of three American adults either overweight or obese, normal-weight Americans are now in the minority. And the rise in obesity among children and adolescents does not bode well for future rates of diabetes, heart disease, and cancer.

Despite this epidemic, the 2005 edition of the Guidelines raises no alarms and sounds no warnings. It offers the same bland, ineffectual advice that most people have heard for years. (The “key recommendations” are: “To maintain body weight in a healthy range, balance calories from foods and beverages with calories expended. To prevent gradual weight gain over time, make small decreases in food and beverage calories and increase physical activity.”)

We urge the DGAC to advise the Departments of Agriculture and Health and Human Services to overhaul the weight chapter with specific, clear-cut advice that alerts consumers to some of the key causes of weight gain. Clearly, the causes of obesity are multifactorial (See Attachment: “How to Get a Gut,” NAH, Dec. 2008.) Nevertheless, we suggest that the DGAC focus on the following recommendations.

II. Key Recommendation: Eat half (or less) of most restaurant meals.

Restaurant food is usually high in calories (and saturated fat and sodium), largely because of large portion sizes. A typical meal at a table-service restaurant supplies roughly 1,000 calories without appetizer or dessert. For example, the chart below lists nutrition information for a sampling of pasta and chicken dishes at Olive Garden restaurants. (From http://www.olivegarden.com/menus/garden_fare/nutrition_information.asp) Of course, these numbers do not include the unlimited breadsticks and salad offered with all entrees.

Portions: Dinner Lunch	Calories	Total Fat (g)	Sat. Fat (g)	Sodium (mg)	Carbohydrates
Braised Beef & Tortelloni	1020	53	22	2060	82
Capellini Pomodoro	840	17	3	1250	141
Cheese Ravioli with Marinara Sauce	660	22	11	1440	84
Cheese Ravioli with Meat Sauce	790	28	14	1510	88
Chicken Parmigiana	1090	49	18	3380	79
Eggplant Parmigiana	850	35	10	1900	98
Fettuccine Alfredo	1220	75	47	1350	99
Five Cheese Ziti al Forno	1050	48	26	2370	112
Lasagna Classico	850	47	25	2830	39
Linguine alla Marinara	430	6	1	900	76
Manicotti Formaggio	940	46	25	2530	81
Ravioli di Portobello	670	30	17	1400	74
Spaghetti & Italian Sausage	1270	68	24	3100	98
Spaghetti & Meatballs	1110	50	20	2180	103
Spaghetti with Meat Sauce	710	22	8	1340	94
Tour of Italy	1450	74	33	3830	97
Chicken & Gnocchi Veronese	1030	58	26	2580	72
Chicken & Shrimp Carbonara	1440	88	38	3000	80
Chicken Alfredo	1430	82	48	2030	103
Chicken Marsala	770	37	5	1800	59
Chicken Scampi	1020	53	22	1880	84
Garlic-Herb Chicken con Broccoli	960	41	18	2180	90
Stuffed Chicken Marsala	800	36	16	2830	40
Venetian Apricot Chicken	380	4	1.5	1420	32

Calories (and other nutrients) at Olive Garden are typical, as is clear from the growing number of restaurants that now post nutrients online (see Attachment: U.S. Restaurants with Nutrition Information).

Not surprisingly, eating out more frequently is associated with obesity, higher body fatness, or higher BMI. (See CSPI's Comments on Restaurant Foods for a full discussion and references).

The DGAC should also encourage the federal government to require calorie labeling at chain restaurants. Labeling is—or will soon be—required in New York City, Philadelphia, California, King County (Seattle), Multnomah County (Oregon), and Westchester County (New York).

III. Key Recommendation: Consume nondiet soft drinks only rarely.

Per capita soft drink intake doubled between 1970 and 1997, yet evidence is mounting that these beverages promote weight gain. (See CSPI's Comments on Carbohydrates for a full discussion and references). In fact, soft drinks are the *only* beverages or foods that have been directly linked to obesity.

Because soft drinks make a unique and major contribution to obesity and other health problems, we urge the DGAC to recommend that the U.S. Food and Drug Administration require rotating warning notices on labels of non-diet soft drinks.

IV. Key Recommendation: Cut calorie-dense foods and *unnecessary* calories.

Replace calorie-dense foods with fruits and vegetables.

A number of studies now indicate calorie density is linked to weight.⁷⁹ For example, roughly 100 obese women who were assigned to eat less fat and increase water-rich (noncalorie-dense) foods, especially fruits and vegetables, lost more weight than those who were only told to eat less fat.⁸⁰ And in a recent study of 186 women, those who reported eating more calorie-dense foods—like baked desserts, refined grains, and fried potatoes—gained 14 pounds over six years, while those who ate foods with a lower calorie density gained only 5½ pounds.⁸¹

The simplest way to encourage people to reduce calorie density is to recommend that they eat fruits and vegetables instead of other snacks (cookies, chips, candy bars, crackers, muffins, doughnuts, bagels, scones, etc.) or other items in a meal (potatoes, rice, bread, fatty meats, etc.). A rule-of-thumb that the public can easily remember is to fill at least half of one's dinner plate with vegetables and fruits.

Cut added sugars, fats, and alcohol.

The healthiest way to reduce calorie intake is to cut added sugars, fats, and alcohol. They provide calories but few or no vitamins, minerals, or other essential nutrients. As USDA's MyPyramid.gov illustrates, most people do not have room for many discretionary calories in their diet.⁸²

Comments by the Center for Science in the Public Interest on Fatty Acids

I. The guideline should motivate the public to eat healthier diets.

The guidelines should underscore that saturated fat raises LDL (“bad”) blood cholesterol, a major risk factor for coronary heart disease and the leading cause of deaths among American men and women. They should also cite that the Institute of Medicine’s conclusion that a UL (Upper Tolerable Intake Level) “is not set for saturated fatty acids because any incremental increase in saturated fatty acid intake increases CHD risk.”⁸³ The text could stress the urgency by noting understandable statistics from the American Heart association:⁸⁴

- One in three Americans has one or more types of cardiovascular disease (CVD).
- Nearly 2,400 Americans die of CVD each day, an average of one death every 37 seconds.
- CVD claims about as many lives each year as cancer, chronic lower respiratory diseases, accidents and diabetes mellitus combined.
- One in 2.6 women die of CVD.
- Roughly one-third of American adults have LDL (“bad”) cholesterol levels that increase their risk for heart disease and stroke.

II. The guideline should expand its advice about saturated fat.

The text should explain that any food with 4 or more grams of saturated fat is considered “high.” The FDA prohibits health claims on food with at least 4 grams of saturated fat. For example, whole milk labels cannot make a health claim about calcium and osteoporosis because whole milk exceeds that level.

III. The guideline should warn the public about saturated fat in restaurant foods

The Guidelines should give consumers information on the excessive saturated fat levels in many restaurant foods. For example, the Olive Garden desserts, beef, pork, and seafood dishes below dwarf saturated levels in foods. These levels are typical, as is clear from the growing number of restaurants that now post nutrients online (see Attachment: U.S. Restaurants with Nutrition Information).

	Calories	Total Fat (g)	Sat. Fat (g)	Sodium (mg)	Carbohydrates
Black Tie Mousse Cake	760	48	27	270	73
Chocolate Gelato	620	25	20	150	89
Lemon Cream Cake	620	35	16	430	69
Tiramisu	510	32	19	75	48
Torta di Chocolate	800	51	29	125	75
White Chocolate Raspberry Cheesecake	890	62	36	490	70
Chianti Braised Short Ribs	1060	58	26	2970	71
Mixed Grill	770	24	5	1980	48
Pork Filetino	640	19	3	840	44
Steak Gorgonzola-Alfredo	1310	73	41	2190	82
Steak Toscano	880	43	14	1700	45
Grilled Shrimp Caprese	900	41	17	3490	82
Herb-Grilled Salmon	510	26	6	760	5
Parmesan Crusted Tilapia	590	25	10	910	42
Seafood Alfredo	1020	52	31	2430	88
Seafood Portofino	800	33	14	1880	85
Shrimp & Asparagus Risotto	620	30	17	2530	44
Shrimp Primavera	730	12	2	1620	110

(http://www.olivegarden.com/menus/garden_fare/nutrition_information.asp)

IV. The guideline should clarify the confusion about cholesterol.

The fat guideline should note that the Institute of Medicine recently concluded that a Tolerable Upper Intake Level is not set for cholesterol because any incremental increase in cholesterol intake increases CHD risk.⁸³ The guideline should recommend that people consume no more than the Daily Value for cholesterol, which is 300 mg. In addition, the guideline should point out that Nutrition Facts labels include a %DV that tells consumers how much of a day's worth of cholesterol a serving of food contains.

Furthermore, the fat guideline should help to clear up the public's confusion about dietary cholesterol. That confusion has been heightened by misleading advertisements by the American Egg Board claiming that eggs do not raise cholesterol. It is particularly important that the *Dietary Guidelines* clear up this confusion because USDA's marketing division approved those ads.

A meta-analysis of well-controlled clinical studies indicate that adding two egg yolks to a daily diet would raise blood cholesterol by 10.8 mg/dL.⁸⁵ Since the average blood cholesterol level among American adults is now 205 mg/dL, a 10.8 mg/dL rise represents a 5.3 percent rise in blood cholesterol. And since a one-percent rise in blood cholesterol translates into at least a two-percent rise in the risk of heart disease, adding two eggs a day to the average person's diet would raise his or her risk of heart disease by 10.6 percent. Even the lower-quality meta-analysis financed by the egg industry shows that

two egg yolks a day would raise blood cholesterol by 9.5 mg/dL.⁸⁶ Furthermore, studies in primates indicate that dietary cholesterol may promote atherosclerosis by mechanisms other than raising blood cholesterol.⁸⁷

V. The Guideline should provide more information about trans fats.

Although the 2005 Guidelines urged the public to limit trans fats, several key points were not included. The 2010 Guidelines should caution consumers that:

- **Naturally occurring trans is not safe.** Some people mistakenly believe that the naturally occurring trans in high-fat foods is less dangerous than trans in partially hydrogenated oils. Recent studies demonstrate that natural trans is as harmful as man-made trans.^{88 89 90}
- **A daily limit should not exceed 2 grams per day.** Food labels have no Daily Value for trans fat because the IOM report simply urged the public to consume as little as possible. Unfortunately, that leaves consumers with no guidance about an acceptable daily limit. They have no way of knowing that many researchers would recommend, at most, only 2 grams of trans a day.
- **Foods with 0 g trans may still contain trans.** Foods can be labeled “0 grams trans” if they contain less than 0.5 grams of trans per serving. However, some foods, such as coffee creamers, are often consumed in quantities greater than one serving. (See Attachment: “Are You Getting Creamed?” NAH, April 2008.)

VI. Evaluate the healthfulness of interesterified oil

Some food manufacturers have been switching from partially hydrogenated oil to other hard fats to prepare pastries, microwave popcorn, and other non-fried foods. We heartily endorse such reformulations because of the health problems caused by trans fat. We urge the DGAC to recommend that people avoid any food containing more than “0 grams”⁹¹ of trans fat per serving while also assessing the amount of saturated fat.⁹²

Companies reformulating their products without partially hydrogenated oil have a limited range of oils from which to choose. Many companies have switched to palm oil (sometimes mixed with other oils). Palm oil has the virtues of being cheap and trans-fat-free. However, it is still fairly high in saturated fat. Also, the production of palm oil in southeast Asia has devastated the ecology, including threatening orangutans and other species with extinction. One alternative is interesterified soybean (or other) oil. That oil is trans-fat-free, produced domestically, fairly rich in unsaturated fatty acids, and can be produced with any chosen melting point. However, some companies have been avoiding it because no authoritative review committee has opined on its safety (and because its unfamiliar name is off-putting to some consumers). We recommend that the committee evaluate the healthfulness of “IE” oil.

VI. The guideline should clarify how to identify “lean” and “extra lean” meats.

The current edition of the *Dietary Guidelines* recommends choosing lean meats. Thanks to USDA’s failure to require Nutrition Facts labels on fresh meat and poultry and to regulate claims on ground beef, advice to choose lean meats is not a guarantee that consumers will end up with lean meat, especially lean *ground beef*, which accounts for a large fraction of the meat consumed by Americans.

“Lean” and “extra lean.”

In 1994, USDA implemented regulations defining “lean” and “extra lean” for most meat and poultry products.⁹³ “Lean” meats can contain no more than 10 grams of fat, 4.5 grams of saturated fat, and 95 mg of cholesterol per 100-gram serving. “Extra lean” meats can contain no more than 5 grams of fat, 2 grams of saturated fat and 95 mg of cholesterol per 100-gram serving. However, the Department exempted ground beef from those definitions.⁹⁴ Therefore, in some supermarkets, ground beef that contains up to 22.5 percent fat can be labeled “lean” or “extra lean,” as permitted by USDA’s rules prior to 1994.

Percent lean.

Adding to the confusion, many supermarkets label their ground beef as “75 (or 80, 85, etc.) percent lean.” No other food can make a “percent lean” or “percent fat-free” claim unless it meets the definition of “low fat” because USDA and FDA agree that a “percent lean” or “percent fat-free” claim is an implied “low-fat” claim.⁹⁵ However, ground beef is exempt from that regulation.³⁰ (Only 97-percent-lean ground beef would meet the definition of “low fat.”)

Therefore, many consumers who purchase ground beef labeled “75 percent lean,” “80 percent lean,” etc. may assume that they are following advice to buy lean meat. In fact, very little of the ground beef that is regularly sold in supermarkets is “lean” (10 percent fat) and none is “low fat” (3 percent fat).

Recommendations to the *Dietary Guidelines*.

Beef is the second largest source of saturated fat in the average American’s diet¹⁷, and ground beef accounts for about 40 percent of the beef sold in the U.S.⁹⁶ Until USDA finalizes regulations on lean claims for ground beef, advice to “choose lean meats” will be hard to follow and potentially misleading for one of the most popular types of meat.

This guideline should warn consumers that labels for ground beef may be misleading. It should advise the public that almost all ground beef--regardless of claims such as “lean” or “80 percent lean”--is high in saturated fat. Even a 3-ounce serving of cooked ground beef that is 10 percent fat supplies 4 grams of saturated fat--a fifth of a day’s worth.

VII. The guideline should clarify its advice on selecting “lean” meats.

The 2005 edition recommends choosing lean, low-fat or fat-free choices when selecting meats. To help guide consumers in selecting healthier meats, Table 9 compares common meat products that are high and low in saturated fat. The meat and poultry products for products that are lower in saturated fat meet both USDA’s “low-fat” and “extra lean” definitions but not the “lean” definition.

Because foods labeled “lean” may contain up to 4.5 grams of saturated fat per 100 grams and per RACC, a consumer is getting about 23% of the DV for saturated fat. Indeed, the low-fat and extra-lean meats are more practical for keeping saturated fat intake within the recommended daily value, as illustrated in Table 9. CSPI advises that the committee clarify its language by advising consumers to select “*extra-lean*”, “low fat”, and “fat free” meats.

Comments by the Center for Science in the Public Interest on Restaurant Foods

The Dietary Guidelines Advisory Committee should strongly encourage the USDA and HHS to develop a separate guideline to give Americans advice about eating out or strongly emphasize throughout the *Dietary Guidelines for Americans* the importance of following the advice of the *Guidelines* when eating out. Americans are eating out more than ever before and restaurant foods are often served in large portions and have large amounts of saturated fat, sodium, and added sugars (especially in beverages) and have limited choices of fruits, vegetables, and whole grains. This is especially important advice for the guidelines regarding weight management, fats, food groups to encourage, carbohydrates, sodium, and alcohol.

I. The *Dietary Guidelines* should emphasize that about one-third of the average American's diet is consumed away from home.

Americans are increasingly relying on restaurants to feed themselves and their families. In 1970, Americans spent just 26% of their food dollars on restaurant meals and other foods prepared outside their homes.⁹⁷ Today, we spend almost half (46%) of our food dollars on away-from-home foods.⁹⁸ American adults and children consume about one-third of their calories from restaurants and other food-service establishments.⁹⁹

II. Restaurant food portions commonly are large and caloric content is typically higher than food consumed at home.

Americans are eating more calories than two decades ago, which may be due in part to increases in eating out. Studies link eating out with higher caloric intakes and higher body weights or fatness (see Appendix A for a summary of studies).^{100,101,102,103,104,105,106} Children eat almost twice as many calories when they eat a meal at a restaurant (770 calories) compared to a meal at home (420 calories).¹⁰⁷ Women who eat out more often (more than 5 times a week) consume about 290 more calories on average *each day* than women who eat out less often.¹⁰⁸ Furthermore, eating more fast-food meals is linked to eating more calories, more saturated fat, fewer fruits and vegetables, and less milk.^{109,110,111,112,113,114}

Foods that people eat from restaurants and other food-service establishments are generally higher in calories than home-prepared foods.^{115,116,117,118} It is not uncommon for a restaurant entree to provide half of a day's recommended calories.¹¹⁹ Include an appetizer, beverage *or* dessert, and it is easy to consume a whole day's calories in a single meal.

No one would mistake cheese fries with ranch dressing for a health food, but few would guess that a typical serving uses up one-and-a-half-day's worth of calories (3,010

calories). A large milk shake from McDonald's has over 1,100 calories, about a half a day's worth.

It is common for restaurants to serve two to three times more than what is considered a standard serving size. A Double Gulp from 7-Eleven contains six servings, meaning it provides six times as many calories as would a standard serving of soft drink. A porterhouse steak at a typical steak house restaurant weighs more than a pound; according to U.S. Department of Agriculture serving sizes, that is enough meat to serve a family of six.

Without nutrition information, consumers substantially underestimate the levels of calories found in many less healthful menu items.^{120,121} For instance, few people would guess that a smoked turkey sandwich (870 calories) at Chili's has more calories than a sirloin steak (690 calories), or that on the children's menu, an order of chicken crispers (600 calories) has more calories than the ribs (490 calories).

A representative, state-wide telephone poll in California found that few Californians are able to identify from among typical fast-food and other chain-restaurant menu items those with the fewest/most calories, salt, or fat.¹²² Not a single respondent answered all four questions correctly. Less than 1 percent answered three of four questions correctly, only 5 percent answered two of the four questions correctly, and nearly 68 percent were unable to answer even one question correctly. Scores were equally poor regardless of education or income levels. Analogous results were found from a similar state-wide poll in Connecticut.¹²³

One study demonstrated that even trained nutrition professionals cannot accurately estimate the calorie content of typical restaurant meals.¹²⁴ They consistently underestimated the calories, and their estimations were off by large amounts – by 200 to 600 calories. For example, when shown a typical meal of a dinner-house hamburger and onion rings, the dietitians, on average, estimated that they had 865 calories, when they actually had 1,550 calories.

III. The Guidelines should provide tips about how to make healthier, lower-calorie choices in restaurants.

We urge the committee to carefully review the data regarding restaurant foods, including from CSPI's book, *Restaurant Confidential*.¹²⁵ The calorie, fat, saturated fat, trans fat, cholesterol, sodium, and added sugars contents of restaurant foods often dwarf those on most Nutrition Facts labels, because many restaurant foods are both high in those constituents and served in large portions. For the *Dietary Guidelines* to be useful, it needs to give practical advice for eating in restaurants and other food service establishments.

Comments by the Center for Science in the Public Interest on Food Dyes and Behavior

The DGA has not previously commented on the safety of food dyes, especially in the context of healthy children's diets, but it is an issue that now merits discussion. The bulk of scientific research published over the past 30 years has found that dyes adversely affect the behavior of some children. Most of the studies used a mixture of dyes and involved children with ADHD or other behavioral problems. A 2004 meta-analysis of those studies concluded that dyes have a significant adverse effect.¹²⁶ Since that meta-analysis was published, the British government commissioned two studies that involved several hundred children who represented a cross-section of children, rather than children with behavioral problems. Both studies found that dyes adversely affected the children.¹²⁷ In 2008, the Center for Science in the Public Interest petitioned the FDA to ban most food dyes.¹²⁸ (As of December 1, 2008, the FDA had not responded substantively.)

As a result of those studies, in 2007 the British Food Standards Agency (FSA) advised parents: "If a child shows signs of hyperactivity or Attention Deficit Hyperactivity Disorder (ADHD) then eliminating the colours used in the Southampton study from their diet might have some beneficial effects."¹²⁹ The FSA urged food manufacturers to stop using the colorings studied, and some of Britain's biggest supermarket chains—Tesco, Sainsbury's, ASDA, Marks & Spencer, and the Co-op—pledged to drop the dyes from their house-brand products.¹³⁰ When few manufacturers responded promptly, the chair of the FSA board said, "The board expresses its astonishment that industry has not moved more quickly to remove these artificial colors from their products, in the light of serious concerns raised by consumers."¹³¹ Currently, several multinational companies, including McDonald's, Mars, Frito-Lay, Coca-Cola, and Kellogg, use safe natural colorings in some or all of their foods in the UK, but synthetic dyes in the United States.

In July 2008, the European Parliament passed a law that will require a warning label on foods containing any of the six major dyes (several of which are permitted in the United States) used in the two British studies. The notice states that color additives "may have an adverse effect on activity and attention in children."¹³² That law will likely take effect in late 2010. In November 2008, the FSA strengthened its advice to companies by asking them to eliminate dyes by the end of 2009.¹³³

It is important to note that dyes do not serve any health function, such as providing nutritional value or making foods safer. They are used mostly in candies, sugary breakfast cereals, inexpensive frozen desserts, snack foods, gelatin desserts, and other foods widely consumed by children. Also, safe natural colorings are available for almost any use (and products for which no substitutes are available are unlikely to be essential to the food supply). In light of that, we urge the DGAC to review the literature (summarized in CSPI's 2008 petition) and conclude that dyes have not been demonstrated to be safe.¹³⁴ Companies should be advised to switch to safer colorings, and consumers, especially children, should be advised to avoid foods with dyes.

If the committee would like to hear from a physician familiar with this issue, we recommend Dr. David Schab, a psychiatrist at Columbia University Medical Center, who conducted the 2004 meta-analysis with his colleague Dr. Nhi-Ha T. Trinh. Another possibility would be to invite representatives from the FSA to explain they are seeking to eliminate six dyes from children's diets.

Comments by the Center for Science in the Public Interest on the Consumption of Alcoholic Beverages

In CSPI's view, the current (2005) version of the Dietary Guidelines needs little revision to bring it up to date with recent scientific findings on the role of alcoholic beverages in the diet. Essentially, the current Guidelines provide the appropriate balance of information about: the potential risks of excessive consumption; who should avoid alcohol; the potential cardiovascular benefits of moderate drinking for a limited class of consumers; and advice on moderate or low-risk drinking.

CSPI has found no changes in the scientific literature that suggest relaxing the clear message in the Guidelines that drinking alcohol imposes numerous risks on the user, as well as on society at large. Current research in the alcohol field offers no reason to permit new language providing any encouragement for consumers to "drink for their health."

Some elements of the Guidelines could be improved to provide more information and better guidance for consumers. Those include: (1) drinking by children and adolescents, (2) drinking among older adults and the elderly, and (3) the Guidelines' definitions of the alcohol and calorie content of standard drinks.

I. Children and Adolescents

The current Guidelines provide a key recommendation that alcohol should be avoided by some individuals, including children and adolescents. Despite substantial and growing evidence that supports such advice, the recommendation is made without any elaboration or information that might be helpful to parents who are constantly confronted with decisions and questions about whether their teenage children should consume alcoholic beverages or not. In particular, the current broadening discussion surrounding the legitimacy of the minimum legal drinking age of 21 would benefit from Dietary Guidelines that addressed the issue more directly and comprehensively.

We refer the Committee to the thorough summary of the consequences of underage drinking that is found in the September 2003 report of the National Research Council of the Institute of Medicine, *"Reducing Underage Drinking, A Collective Responsibility."* (pages 60 – 66). That discussion notes numerous risks associated with underage drinking: Youth who start drinking at an early age are more likely to suffer a variety of problems related to alcohol. Studies by Hingson and Kenkel "reveal that youth who

started drinking before the age of 15, compared to those who waited until age 21, were 12 times as likely to be unintentionally injured while under the influence of alcohol, 7 times more likely to be in a motor vehicle crash after drinking and 10 times more likely to have been in a physical fight after drinking.”¹³⁵ Youth who drink are more likely to experience or commit a sexual assault and more likely to engage in risky sexual behavior.¹³⁶

New research on adolescent brain development “suggests that early heavy alcohol use may also have negative effects on the actual physical development of brain structure.”¹³⁷ This is especially important because the brain continues to develop physiologically well into adolescence.^{138 139 140}

In our view, the Guidelines should spell out as strong a rationale as possible to discourage alcohol consumption among children and adolescents, including individuals younger than 21 years. Providing information about the specific risks and new research about the effects of alcohol on the developing brain will help parents and other adults better understand that underage drinking is not simply a “rite of passage,” and will help nurture support and understanding of America’s minimum legal drinking age laws.

II. Alcohol and Older Adults/Elderly

The current (2005) Guidelines are virtually silent on issues concerning alcohol and the elderly. Given the substantial growth of that population demographic (12% today, 18 % in 2025¹⁴¹) and the potential for serious injuries and escalating alcohol-related health care and substance abuse-related costs among older people, more discussion is needed, including a specific recommendation related to “moderate drinking for older adults.”

Research documents a wide variety of risks related to alcohol consumption among older adults: hip fractures and other injuries from falls; traffic crashes; depressive disorders; combining alcohol with various medications; late-stage alcoholism; increased risk of intoxication and adverse effects; and decreased level of tolerance to alcohol.^{142 143} In most instances, risks among older adults exceed those of younger adults.¹⁴⁴

Therefore, we recommend that the Guidelines include the following language: “Older individuals (65+) should limit their consumption of alcohol to no more than one drink per day.” That provision would track the current recommendation of the National Institute on Alcohol Abuse and Alcoholism.¹⁴⁵

III. Definitions of Alcohol and Calorie Content of Moderate Drinking

Currently, Box 26 of the Guidelines provides summary information that defines a drink as either a 12-ounce regular beer, a 5-ounce glass of wine, or a 1.5-ounce serving of 80-proof liquor. The Guidelines suggest that a beer has 150 calories, the wine 100, and the shot of liquor also 100. Although that approximation may be somewhat helpful, it fails to take into account recent trends in alcohol products and in alcohol consumption.

New products, such as Mike's Hard Lemonade, Smirnoff Ice, Bacardi Silver, Sparks and newer alcoholic energy drinks have recently gained increasing popularity as substitutes for beer – or soft drinks – particularly among younger drinkers, the same consumers who drink most heavily. Those products, although they may contain alcohol derived from spirits sources, are marketed as malt beverages and available where beer is sold. Like beer, they are currently not required to include alcohol or calorie content information on their labels. Although their alcohol content (approximately 5% by volume, and up to 8% by volume for some of the alcoholic energy drinks) resembles that of beer, they usually contain far more calories due to added sugar. Some contain between 230 and 275 calories, or at least 50% more than a regular beer. Generally, consumers are unaware of the high calorie content of those beverages and think they have fewer – or about the same – calories as a regular beer. Other “high-octane” products that are often consumed from large (32- or 40-oz) containers, such as malt liquors, also fall outside the definition of “standard” drinks, and would provide considerably more alcohol and calories than a regular beer. The Guidelines’ definitions of “standard” drinks and calorie content should be revised to take account of these popular, “non-standard” drinks.

Similarly, the Guidelines’ identification of 100 calories in a serving of distilled spirits may not provide consumers with useful information, and may, in fact, be misleading. As defined in the Guidelines, the straight liquor drink is certainly a rarity. More and more, distilled spirits are served and consumed as mixed drinks, with fruit juices, soft drinks, multiple sources of alcohol, cream, sugar, and other more exotic ingredients. What began as a 100-calorie serving could easily metamorphose into a small meal’s worth of calories, or even more. For example, America’s most popular liquor drink, a Margarita (typically a combination of tequila, sweet and sour mix, and triple sec), may have as much as 60 to 65 calories per ounce. An eight-ounce drink would supply 500 calories, yet it’s not unusual to find Margaritas that contain 16 or 20 or even 24 ounces. Often, they’re served in pitchers, along with high-fat foods, such as nachos. Even with a lot of ice, those large drinks could provide a hefty ration of unexpected calories, beyond those contained in the tequila.

Other popular distilled spirits drinks also contain far more calories than consumers might think. For example, a 3.3 oz. serving of a Manhattan (sweet vermouth, bourbon whiskey, angostura bitters, Maraschino cherry, and orange peel) has 206 calories; a rum martini (2.8 oz.) has 180; a 4.5 oz. pina colada 245 calories; a 7 oz. rum and Coke, perhaps 175 to 200. Many sweet liquor drinks, such as crème de menthe or schnapps, by themselves also contain significantly more than 100 calories per serving.

The 2005 edition of the Dietary Guidelines address this issue with a footnote printed in miniscule type. We recommend that the Dietary Guidelines’ chart information on the calorie content of typical drinks be amended to highlight the additional calories derived from other ingredients mixed with or in distilled spirits drinks. This could be done by listing the calorie content of popular mixed drinks, such as Margheritas, screwdrivers, Mannhattans, zombies, Jaegerbombs, Red Bull and vodka, etc. Similarly, the chart should contain accurate calorie and serving size information about flavored malt beverages and alcoholic energy drinks that contain caffeine and other stimulants.

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